



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2011-1319; Directorate Identifier 2011-NM-143-AD; Amendment 39-17151; AD 2012-16-04]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 777-200 and -300 series airplanes equipped with Rolls-Royce RB211 Trent 800 engines. This AD was prompted by reports of events related to thermal damage of the thrust reverser (T/R) inner wall on Rolls-Royce RB211 Trent 800 engines. This AD requires replacing the bleed valve parts and tubing with new parts and tubing on the left and right engines; and installing Aero-Engine database (AEDB) software in the airplane information management system (AIMS) hardware. We are issuing this AD to prevent T/R thermal damage caused by excessive heat downstream of the 8<sup>th</sup> stage IP8 exhaust ports, which could result in T/R structural failure. This failure could result in large pieces of the T/R or adjacent components departing the airplane. A separated T/R piece could result in a rejected takeoff and cause asymmetric thrust and consequent loss of control of the airplane during reverse thrust operations. Separated components could also cause structural damage to the airplane, damage to other airplanes due to debris left on the runway, or injury to people on the ground.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For Boeing service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; phone: 206-544-5000, extension 1; fax: 206-766-5680; Internet: <https://www.myboeingfleet.com>. For Rolls-Royce service information identified in this AD, contact Rolls-Royce plc, P.O. Box 31, Derby, DE24 8BJ, England; telephone 011 44 1332 242424; fax 011 44 1332 249936; Internet: <https://www.aeromanager.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Margaret Langsted, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; phone: 425-917-6500; fax: 425-917-6590; e-mail: [Margaret.Langsted@faa.gov](mailto:Margaret.Langsted@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM published in the Federal Register on December 12, 2011 (76 FR 77157). That NPRM proposed to require replacing bleed valve parts and tubing with new parts and tubing on the left and right Rolls-Royce RB211 Trent 800 engines; and installing AEDB software in the airplane AIMS hardware.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal (76 FR 77157, December 12, 2011) and the FAA's response to each comment.

### **Request to Use Certain Service Information**

American Airlines (American) and Boeing requested that the NPRM (76 FR 77157, December 12, 2011) allow the use of Boeing Special Attention Service Bulletin 777-31-0177, Revision 1, dated October 13, 2011, as a source of information to comply with the actions required by paragraph (h) of the NPRM.

We agree. Paragraph (h) of the NPRM (76 FR 77157, December 12, 2011) specified the use of Boeing Special Attention Service Bulletin 777-31-0177, dated September 23, 2010. We have revised paragraph (h) of the final rule to add Boeing Special Attention Service Bulletin 777-31-0177, Revision 1, dated October 13, 2011, as an additional source of service information for accomplishing the actions specified in that paragraph. Boeing Special Attention Service Bulletin 777-31-0177, Revision 1, dated October 13, 2011, specifies updates to the concurrent requirements paragraph.

### **Request to Allow Use of Service Information Revision**

American requested that the NPRM (76 FR 77157, December 12, 2011) allow the use of Rolls-Royce Service Bulletin RB.211-75-G466, dated November 21, 2011, as an additional source of information to accomplish the requirements of paragraph (g) of the NPRM.

We agree. We have changed the final rule to specify that the actions required by paragraph (g) of the AD may be done in accordance with the Accomplishment Instructions of Rolls-Royce Service Bulletin RB.211-75-G466, Revision 1, including Supplement, dated June 20, 2011; or Rolls-Royce Service Bulletin RB.211-75-G466, Revision 2, including Supplement, dated November 21, 2011.

### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (76 FR 77157, December 12, 2011) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (76 FR 77157, December 12, 2011).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

### **Costs of Compliance**

We estimate that this AD affects 55 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

### Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replacement	16 work-hours X \$85 per hour = \$1,360	\$75,000	\$76,360	\$4,199,800
Installation of AEDB software	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$4,675

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the

national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2012-16-04 **The Boeing Company**: Amendment 39-17151; Docket No. FAA-2011-1319; Directorate Identifier 2011-NM-143-AD.

#### **(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to The Boeing Company Model 777-200 and -300 series airplanes, certificated in any category, equipped with Rolls-Royce RB211 Trent 800 engines, as identified in Boeing Service Bulletin 777-75A0002, Revision 1, dated October 26, 2011.

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 78, Exhaust.

**(e) Unsafe Condition**

This AD was prompted by reports of events related to thermal damage of the thrust reverser (T/R) inner wall on Rolls-Royce RB211 Trent 800 engines. We are issuing this AD to eliminate T/R thermal damage caused by excessive heat downstream of the 8<sup>th</sup> stage IP8 exhaust ports, which could result in T/R structural failure. This failure could result in large pieces of the T/R or adjacent components departing the airplane. A separated T/R piece could result in a rejected takeoff and cause asymmetric thrust and consequent loss of control of the airplane during reverse thrust operations. Separated components could also cause structural damage to the airplane, damage to other airplanes due to debris left on the runway, or injury to people on the ground.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Replacement of Bleed Valve Parts and Tubing**

Within 36 months after the effective date of this AD, replace the bleed valve parts and tubing with new parts and tubing on the left and right engines, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-75A0002, Revision 1,

dated October 26, 2011; Rolls-Royce Service Bulletin RB.211-75-G466, Revision 1, including Supplement, dated June 20, 2011; or Rolls-Royce Service Bulletin RB.211-75-G466, Revision 2, including Supplement, dated November 21, 2011.

**(h) Concurrent Requirements**

Prior to or concurrently with doing the actions required by paragraph (g) of this AD, install Aero-Engine database software, software part number 3110-BCG-00R-06, media set part number 243W0033-7, in the airplane information management system hardware, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 777-31-0177, dated September 23, 2010; or Boeing Special Attention Service Bulletin 777-31-0177, Revision 1, dated October 13, 2011.

**(i) Credit for Previous Actions**

This paragraph provides credit for the replacement required by paragraph (g) of this AD, if the replacement was performed before the effective date of this AD using Boeing Alert Service Bulletin 777-75A0002, dated January 12, 2011.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be e-mailed to: [9-ANM-Seattle-ACO-AMOC-Requests@faa.gov](mailto:9-ANM-Seattle-ACO-AMOC-Requests@faa.gov).

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.



**(k) Related Information**

For more information about this AD, contact Margaret Langsted, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; phone: 425-917-6500; fax: 425-917-6590; e-mail: [Margaret.Langsted@faa.gov](mailto:Margaret.Langsted@faa.gov).

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use the following service information to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Service Bulletin 777-75A0002, Revision 1, dated October 26, 2011.

(ii) Boeing Special Attention Service Bulletin 777-31-0177, dated September 23, 2010.

(iii) Boeing Special Attention Service Bulletin 777-31-0177, Revision 1, dated October 13, 2011.

(iv) Rolls-Royce Service Bulletin RB.211-75-G466, Revision 1, including Supplement, dated June 20, 2011. The revision level of this document is not identified in the document.

(v) Rolls-Royce Service Bulletin RB.211-75-G466, Revision 2, including Supplement, dated November 21, 2011. The revision level of this document is not identified in the document.

(3) For Boeing service information identified in this AD, contact For Boeing service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; phone: 206-544-5000, extension 1; fax: 206-766-5680; Internet: <https://www.myboeingfleet.com>.

(4) For Rolls-Royce service information identified in this AD, contact Rolls-Royce plc, P.O. Box 31, Derby, DE24 8BJ, England; telephone: 011 44 1332 242424; fax: 011 44 1332 249936; Internet: <https://www.aeromanager.com>.

(5) You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(6) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on July 26, 2012.

Kalene C. Yanamura,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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